

WHAT IS CLAIMED IS:

- 5 ① A device comprising at least two chambers separated by an activatable seal wherein upon activation of the seal the two chambers are in communication, wherein at least one chamber comprises a biological assay reagent.
- 10 2. The device of claim 1 wherein at least one of the chambers includes a liquid substance.
3. The device of claim 2 wherein upon activation of the seal the two chambers are in fluid communication.
- 15 4. The device of claim 1 wherein at least one of the chambers includes a solid substance.
5. The device of claim 4 wherein the solid substance is in the form of a powder.
- 20 ⑥ 6. The device of claim 1 wherein the biological assay reagent comprises bacteriophage, bacterial helper cells, metabolic regulators, selective agents, proteins, antibodies, enzyme substrates, antiviral agents, dyes, indicator chemistries, pigments, nutrients, or combinations thereof.
- 25 7. The device of claim 1 comprising at least three chambers, wherein at least two of the chambers are separated by a seal that rotates upon activation.
- 30 Sub A1 8. The device of claim 7 wherein a first chamber includes bacteriophage, a second chamber includes an antiviral agent, and a third chamber includes bacterial helper cells.

9. The device of claim 8 wherein the second chamber is disposed between the first and third chambers.

5 10. The device of claim 1 wherein activation of the seal comprises rotating the seal.

11. A device comprising at least two chambers separated by an activatable seal, wherein at least one chamber includes a biological assay reagent selected from the group of bacteriophage, an antiviral agent, and bacterial helper cells.

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12. The device of claim 11 wherein the biological assay reagent is selected from the group of bacteriophage, bacterial helper cells, metabolic regulators, selective agents, proteins, antibodies, enzyme substrates, antiviral agents, dyes, indicator chemistries, pigments, nutrients, or combinations thereof.

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13. The device of claim 11 wherein the seal rotates upon activation to allow communication between the two chambers.

20 14. The device of claim 11 comprising at least three chambers, wherein a first chamber includes bacteriophage, a second chamber includes an antiviral agent, and a third chamber includes bacterial helper cells.

15. The device of claim 14 wherein the second chamber is disposed between the first and third chambers.

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16. The device of claim 15 wherein the second chamber is separated into two subchambers separated from each other by an activatable seal.

30 17. The device of claim 16 wherein the two subchambers of the second chamber each include an antiviral agent.

18. The device of claim 11 wherein at least one of the chambers includes a liquid substance.

19. The device of claim 18 wherein upon activation of the seal the two chambers are in fluid communication.

20. The device of claim 11 wherein at least one of the chambers includes a solid substance.

21. A device comprising at least three chambers, each of which is separated by a rotatable seal, wherein a first chamber includes bacteriophage, a second chamber includes an antiviral agent, and a third chamber includes bacterial helper cells.

22. The device of claim 21 wherein the second chamber is disposed between the first and third chambers and is separated into two subchambers separated from each other by a rotatable seal, wherein each subchamber includes a different antiviral agent.

23. A method for detecting the presence or absence of a microorganism, the method comprising:

providing a device comprising at least two chambers separated from each other by an activatable seal, wherein at least one chamber includes a biological assay reagent;

adding a sample suspected of including the microorganism to at least one of the chambers;

activating the seal between one or more of the chambers to allow contact between the reagent and the sample; and

detecting the presence or absence of the microorganism in the sample.

24. A method for detecting the presence or absence of bacteria, the method comprising:

5 providing a device comprising at least three chambers separated from each other by seals, wherein a first chamber includes bacteriophage, a second chamber includes an antiviral agent, and a third chamber includes bacterial helper cells, wherein the second chamber is disposed between the first and third chambers;

10 adding a sample suspected of including target bacteria to the first chamber comprising bacteriophage;
allowing the bacteriophage to infect the target bacteria;
activating the seal between the first and second chambers to allow contact between the antiviral agent and extracellular bacteriophage;
activating the seal between the second and third chambers to allow contact between the bacterial helper cells and the infected target bacteria;
15 incubating the bacterial helper cells and the infected bacteria; and
detecting the presence or absence of the target bacteria in the sample.

25. The method of claim 24 wherein the second chamber is separated into two subchambers separated from each other by a seal.

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26. The method of claim 25 wherein the two subchambers of the second chamber each include an antiviral agent.

27. The method of claim 26 wherein the seal between the two subchambers is
25 activated to allow the two antiviral agents to mix prior to contacting the antiviral agents with the extracellular bacteriophage.

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